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EXAMINER
ART UNIT	PAPER NUMBER
2317	12

DATE MAILED: 03/26/97

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined   ☒ Responsive to communication filed on 2-19-97   ☐ This action is made final.

A shortened statutory period for response to this action is set to expire __3__ month(s), __0__ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I   THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.   2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.   4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.   6. ☐ _____

Part II   SUMMARY OF ACTION

1. ☒ Claims __1-56__ are pending in the application.

  Of the above, claims _____ are withdrawn from consideration.

2. ☒ Claims __16__ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims __1-15, 17-56__ are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☒ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____ ; filed on _____.

13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

Part III DETAILED ACTION

The finality of the last office action is withdraw.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant disclosed prior art and further in view of Khoyi et al. US patent 5,206,951 and Hansen "Andrew as a Multiparadigm Environment for Visual Languages".

As per claim 1, Applicant disclosed prior art [pages 1-10: Mosiac + HTTP + HTML + "World Wide Web"] has the limitations essentially as claimed client workstation, network server coupled in a distributed hypermedia environment [p.8 lines 15-30];

executing on the client a browser application [p.4 Mosaic] that parses distributed hypermedia document to identify text formats [HTML tags] and for responding to predetermined text

formats to initiate processes specified by the text format [p.4-5];

utilizing the browser to display, on said client workstation, portion of a first hypermedia document received over the network, wherein the hypermedia document includes an embed text format specifies the location of an object external to the hypermedia document [p.4 lines 4-12, p.5 lines 9-26].

It is apparent that specifies type of information [p.5 lines 11 - text, images, sound, video...] is utilized by the browser to identify and locate an executable application external to the hypermedia document [p.4 lines 13-22 - "viewer" software];

Furthermore, Khoyi teaches an object data processing system operating in which an extensible set of object may be embedded within one document. The system invoke a corresponding object manager (a program external to the document) in response to an invocation request to process and control the object [col.9 lines 16-30, col.12 lines 49-68, col.13 lines 40-60, col.14 lines 32-44]. Khoyi teaches links specifying the object and type [col.13 lines 50-55]. It would have been obvious for one of ordinary skill in the art to combine the teaching of Khoyi with the disclosed prior art because it would have improved the system by providing open ended for integrating new object/application and

new type of information with existing type without recompiling

the browser [col.12 line 65 to col.13 line 28].

The disclosed prior art does not invoke the executable

application to display and process said object within the browser

controlled window while a portion of the first hypermedia

document continues to be displayed within the browser controlled

window. The disclosed prior art launches the external

application into a separate window to process the object.

Hansen discloses a "multiparadigm" environment which

combines textual and graphical elements within a document.

Hansen teaches "it may be adequate to display each sublanguage

element in a separate window, but this runs the risk of chaotic

imagery among which it is difficult to discern the relationships

among program segments. Instead, the author should have the

power to organize the program fragments for perusal by the

reader. The organization itself, together with commentary, aids

the reader in comprehending the program." [p.256 col.1 1st

paragraph]. Hence, it would have been obvious for one of

ordinary skill in the art to provide external application to

display and process the object within the browser-controlled

window because it would have improved the system by reducing

clustering of the display and aiding the reader comprehension of

the hypermedia document.

As per claim 44, it is rejected under similar rationale as for claim 1 above.

Claims 2-6, 10-14, 45-48, 15, 17-23, 24-33, 34-43, 54, 55, and 56 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant disclosed prior art, Khoyi et al, Hansen "Andrew as a Multiparadigm Environment for Visual Languages" and further in view of Moran "Tele-Nicer-Dicer: A new tool for the visualization of large volumetric data".

As per claim 2, the disclosed prior art does not disclose interactively controlling via communication sent over the distributed environment.   Moran discloses a distributed application (TNSD) for interactive control and visualization of graphical object through communication over network.   Moran application allow usage of remote system resources for visualization of large data set at a client station.   It would have been obvious for one of ordinary skill in the art to utilize Moran application as an external application ("Viewer") in the prior art system as modified because it would have improved the system by enabling the client station access to resources on higher performance servers and to have interactive visualization of large data set capability.

As per claim 3, Moran discloses sending command to remote
server, executing on the server, and sending result to the client
to process and display [p.3 col.2-3 specifically col.1 3rd
paragraph].

As per claim 4 and 5, the limitation recited is inherent in
the system as modified.

As per claim 6, Moran teaches a multi-dimensional viewer
[Abstract].

As per claims 10-14, Applicant disclosed prior art
communicates over the Internet, and uses ISO TCP/IP standard and
Hypertext Transfer Protocol.

As per claims 45-48, they are rejected under similar
rationales as for claims 2-5 above.

As per claim 49, Moran teaches a multi-dimensional viewer
[Abstract].

As per claim 15, it is rejected under similar rationale as
for claim 1 above. The disclosed prior art and Hansen do not
specifically teach a multidimensional data visualization
application.

Moran discloses a distributed system for interactive control
and visualization of graphical object through communication over
network. Moran teaches determining orientation and rendering of

images by sending command comprising of text fields [p.3 col.1] over communication network.

It would have been obvious for one of ordinary skill in the art .to combine Moran teaching with the disclose prior art as modified because it would have improved the system to provide powerful image visualization, presentation and control to scientists world wide.

As per claims 17-22, the recited limitations - volume visualization, 2d image, image analysis, animated sequences, geometric viewer, and molecular modeling - would have been a matter of design choice because they are merely well known visualization methods.

As per claim 23, it is apparent in the system as modified that communication continue to be exchange between the multidimensional data visualization application and the browser in order for the visualization application to control the object within the browser's window.

As per claim 24, it is rejected under similar rationale as for claim 15 above. The references do not specifically disclose the step of transferring ..., accepting ..., executing ..., communicating ..., using ... The steps recited is inherent in the prior art as modified because:

It is well known in the art, at the time of the invention, that HTML documents contains links specified by URL's. It is known that HTML documents transfers involves HTTP protocol messages. The process involves:

transferring, over the network, a hypermedia document [the HTML document] with embedded objects [URL links, mapped images, fill-in forms, etc.] from a server computer to the client computer;

parsing the document by the browser to locate reference to external objects [URL's, images, etc.];

accepting first signals from the user input device [clicking on an URL link, or a mapped image, or a form's 'submit' button]

issuing commands [HTTP message with the linked URL, or coordinates where the mapped image was clicked, or the form's content] from the client computer to a first computer in response to the signal [it is known that an HTTP message in an HTML document can direct to any computer connected to the Internet that accept HTTP protocol];

Moran teaches executing instructions by a first additional computer and generate information about manipulating the embedded object; communicating the information to the client; and using the client to

manipulate the object according to the communicated

information [Apparent from p.3 "TNSD client functionality"

and "TNSD Server Functionality"].

As per claims 25, 27, 29, 31, 33 the disclosed prior art

document is a hypermedia document [p.5 lines 10-25].

As per claim 26, Applicant disclosed that it known in prior

art to access objects over multiple computers (servers) [p.4

lines 5-12, p.7 lines 22-28]. It would have been obvious for one

of ordinary skill in the art to have multiple computers to

response to issued commands because it would have distributed the

processing load.

As per claims 28, 30, and 32, Moran discloses a distributed

system for interactive control and visualization of graphical

object through communication over network. Moran teaches

determining orientation and rendering of images by sending

command comprising of text fields [p.3 col.1] over communication

network.

As per claims 34, it is rejected under similar rationale as

for claim 24 above.

Moran does not specifically disclose a second server.

However, it would have been obvious for one of ordinary skill in

the art to provide plurality of servers to speed up processing.

As per claims 35, 37, 39, 41, and 43, the disclosed prior art system is a distributed hypermedia environment.

As per claim 36, Moran teaches distributing the processing on various computers [client - server]. It would have been obvious for one of ordinary skill in the art to distribute the processing to the machine in such a way that the instructions is executed faster.

As per claims 38 and 40, Moran teaches determining orientation and rendering of images [p.2 - p.3].

As per claim 42, Moran teaches dynamically manipulating the object [p.2 - zoom]. It is apparent that the system as modified would accept signal from user input to indicate a second orientation of an object.

As per claim 54, it is rejected under similar rationale as for claim 15 above.

As per claim 55, it is rejected under similar rationale as for claim 24 above.

As per claim 56, it is rejected under similar rationale as for claim 34 above.

Claims 7-9, 50-53 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant disclosed prior art, Hansen "Andrew as a Multiparadigm Environment for Visual Languages"

,**Moran "Tele-Nicer-Dicer: A new tool for the visualization of**

large volumetric data" and further in view of Rizzo "What's

OpenDoc?" (prior art submitted by applicant).

As per claims 7-9 and 50-52, The applied references do not

specifically disclose application being a spreadsheet, a

database, or word processor program. Rizzo discloses a systems

that allows for embedding object of different applications (word

processing, spreadsheet, database, movie) in one document and

manipulation of the object within the document using functions of

the corresponding application. Hence, it was well within the

skill on one of ordinary skill in the art to provide

controllable application for database, spreadsheet, word

processing, etc. functions. The type of program provided would

have been a matter of design choice.

. As per claim 53, the disclosed prior art uses Hyper Text

Markup language.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Dinh whose telephone number is (703) 305-9655. The examiner can normally be reached on Monday-Thursday from 7:00 AM - 4:30 PM. The examiner can also be reached on alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached at (703) 305-9717. The fax phone number for this group is (703) 308-5359.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.

Dung Dinh
Patent Examiner
March 18, 1997